

## **GROUP WORKS TERM3 2023 2024**

### **CLASS: S5MPC**

#### **GROUP12:**

1. Define virtual function
2. Write an algorithm that asks the user to enter the number and it displays the square of that number?
3. Store Information of students and Display It Using Structure by creating an array having 4 elements of structure student. Each of the element stores the information of a student. For example, st[0] stores the information of the first student, st[1] for the second and so on.
4. Discuss the concept of a pointer to a pointer? Provide an example where this might be useful.
5. Using a class, write a java program to find the largest number in the two entered by the user.

#### **GROUP11:**

1. Is a Laptop hardware maintenance difficult comparing to a desktop computer maintenance? Explain
2. What are the types of network errors?
3. What is the importance of encapsulation?
4. Define a class to represent a bank account, include the names of the depositors account numbers, balance amount in the account having method to:
  - a. Assign initial values
  - b. Deposits the amount
  - c. Withdraw amount after checking the balance and display the names and balance.
5. Write a program which contains First Name, Last Name, Age and Gender in label and its written in textbox and when make save it display in List box.

**GROUP10:**

- 1.What is a computer network
2. (i) Ethernet cables connect the computers to the server. Identify three other hardware components that might be used to set up the LAN.
3. Write a C++ program to print Fibonacci series (0 1 1 2 5 8 13).
4. Explain laptop and portable devices clearing procedure
5. Write java program to check whether the given number is positive or negative

**GROUP9:**

- 1.What is a protocol?
2. Write an algorithm of a program that allows the user to enter (store) two dimensional array elements and displays those stored elements.
3. What are the features of Android operating system?
4. Describe 4 advantages of using relational database system in table?
5. Create a class called Invoice that a hardware store might use to represent an invoice for an item sold at the store. An Invoice should include four pieces of information as instance variables a part number(type String), a part description(type String), a quantity of the item being purchased (type int) and a price per item (double). Your class should have a constructor that initializes the four instance variables. Provide a set and a get method for each instance variable. In addition, provide a method named getInvoice Amount that calculates the invoice amount (i.e., multiplies the quantity by the price per item), then returns the amount as a double value. If the quantity is not positive, it should be set to 0. If the price per item is not positive, it should be set to 0.0. Write a test application named InvoiceTest that demonstrates class Invoice's capabilities.

**GROUP8:**

- 1.What is the difference between structure and class?
2. Differentiate logical to physical independence in database.
3. Define a radio button and a check box in what are they different?
4. Define a class Application in C++ with the following description

**Private Members**

- A data member ANo(admission number) of type long
- A data member Name of type string

- A data member Agg(Aggregate Marks) of type float
- A data member Grade of type Char
- A member function GradeMe() to find the grade as per the aggregate marks obtained by a student. Equivalent aggregate Marks range and the respective grades are shown as follows:

Aggregate Marks Grade

$\geq 80$  A

Less than 80 and  $\geq 65$  B

Less than 65 and  $\geq 50$  C

Less than 50 D

### Public Members

A function ENTER() to allow user to enter values for ANo, Name, Agg and call function GradeMe() to find the Grade.

A function RESULT() to allow the user to view the content of all the data members.

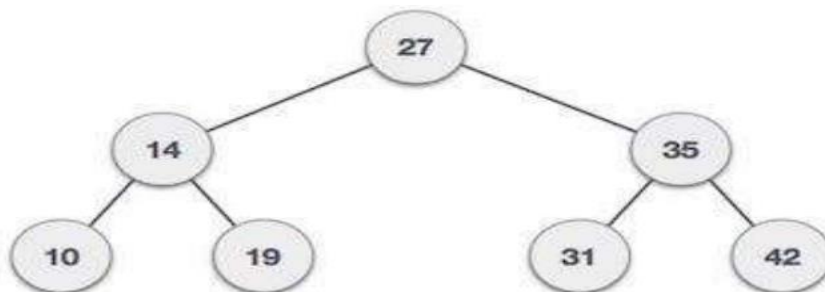
5. Write a Vb program to find fibonacci series up to a given term (use InputBox)

### GROUP6:

1. Distinguish data integrity from data security?

2. Differentiate a class from a structure?

3. After defining binary tree data structure, Determine the order in which the following data in tree data structure will be accessed during in order, pre order and post order (10marks)



4. What is the difference between a form module and standard module?

5. Using array write a java program to calculate the sum and average of n numbers.

**GROUP7:**

1.What are the uses of RDMS in database?

2.Using destructor write a c++ program to calculate area of triangle. (15marks)

3. Categorize these devices according to their transmission modes.

a. Phone b. Walkie –Talkie c. Radio d. Computer

4. Discuss the concept of data independence and explain its importance in Database environment.

5. Visual basic program to display a star on label control placed on the form

**GROUP5:**

1.Differentiate database normalization to database denormalization

2. Let consider the database with table CUSTOMER identified by CustomerName, Address, TelephoneNumber, ItemOrdered, Quantity and Price. However, a customer may order several items and each customer in the database may order a different number of items. This situation makes it difficult to implement the data in a relational database, since we do not know how many order entries to allow. Is this database structure complex? If yes, identify the anomalies it has and suggest the solution to the database designer to make it simple.

3. Construct a class named rectangle that has floating-point data members named length and width. The class should have a member method named perimeter(), and area() to calculate the perimeter and area of rectangle, a member method named getdata() to set a rectangle's length and width, and method named showdata() to display a rectangle's length, width, perimeter and area. The perimeter and area are given by the following formula:

$$P=(L+W)/2$$

$$A=(L*W)$$

4.Explain the following network topologies:

Bus topology

Ring topology

star topology

Mesh topology

Extended topology

5. Write a VB program that displays the multiplication table of 4 to 6.

#### **GROUP4:**

1.what are advantages of DBMS?

2. What is the output of the program below,

```
#include<iostream>
using namespace std;
int main()
{
    a = 11,*aptr;
    int b = 5,*bptr;
    int c;
    aptr=&a;
    bptr=&b;
    cout << "*aptr+*bptr is :" << *aptr+*bptr << endl;
    cout << "a + b is :" << a+b << endl;
    cout << " *aptr-*bptr is :" << *aptr-*bptr << endl;
    cout << "a - b is :" << a-b << endl;
    cout << " *aptr**bptr is :" << *aptr**bptr << endl;
    cout << "a * b is :" << a*b << endl;
    cout << "a / b is :" << a/b << endl;
    cout << "a % b is :" << a%b << endl;
    cout << "a++ is :" << a++ << endl;
    cout << "a-- is :" << a-- << endl; return 0;
}
```

3. Write the VB codes which draw a green circle when a program is executed?

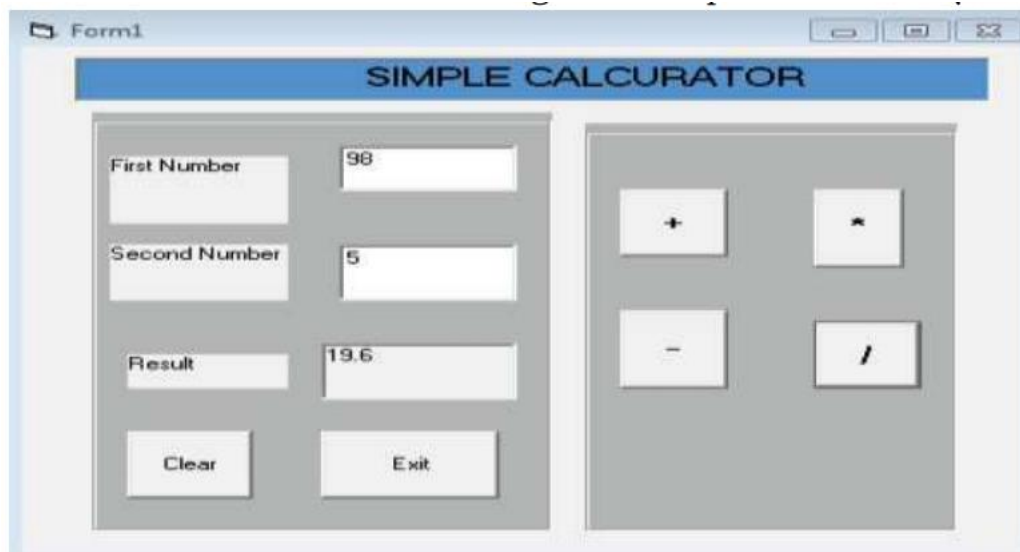
4. List and explain at least five components that make up Visual Basic IDE?/
5. Write a Java program to find the index of an array element

**GROUP3:**

- 1.Outline any six common ports we find on a laptop computer. (6marks)
2. ) Compare a peer to peer network and a client server network.
3. Create class Factorial that calculate factorial of a number typed by the user.
4. What are the responsibilities of DBA (Database Administrator)?
5. Write a java program to swap the values of two variable

**GROUP2:**

1. What would happen if a drink was spilled into key board of laptop
2. Write the Visual Basic codes to design this simple calculator



3. What is the cardinality and existence of each of the following relationships in just the direction given? State any assumptions you have to make.

- ✓ Husband to wife
- ✓ Car and steering wheel
- ✓ Student to degree
- ✓ Child to parent
- ✓ Player to team
- ✓ Student to course

4. What are Several different communication methods used by computer?
5. Develop the program below using bufferedReader method

```
package javaapplication17;
import java.util.Scanner;
public class JavaApplication17 {
    public static void main(String[] args)
    { int k,ss,m,largest;
    Scanner s=new Scanner(System.in);
    System.out.println("enter age of student K:");
    k=s.nextInt();
    System.out.println("enter age of student ss:");
    ss=s.nextInt();
    System.out.println("enter age of student M:");
    m=s.nextInt();
    if (k< ss && k < m) {
    System.out.println("The youngest is K with: " + youngest + " age(s)");
    }
    else if (ss < k && ss < m) {
    System.out.println("The youngest is SS with: " + youngest + " age(s)");
    }
    else if (m < k && m < ss) {
    System.out.println("The youngest is M with: " + youngest + " age(s)");
    } else System.out.println("Both or two among K, SS, and M are in the same
age.");
    } }
```

## GROUP1:

1.(a)What do you understand by network bridging?

(b) Explain why switch is most preferred than hub?

2. A-member function of a class can be defined inside the class or outside of class. Provide the syntax which demonstrates how to define the member function outside of class?

3. Using a pointer, write a C++ program that will display an area and volume of a sphere (area= $4\pi r^2$ , volume=  $\frac{4}{3}\pi r^3$  ).

4. Describe what is used for standalone and networked laptop computer.

5. Write a VB program to display the following sequence of numbers  
100,80,60,40,20,0

6.Find out the output of the following source code when a number of rows is 7

```
import java.util.Scanner;

public class MainClass {

    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);

        System.out.println("How many rows you want in this pattern?");

        int rows = sc.nextInt();

        System.out.println("Here is your pattern....!!!");

        for (int i = 1; i <= rows; i++) {

            for (int j = 1; j <= i; j++) {

                System.out.print(i+" ");

            }

            System.out.println();

        } sc.close();

    }

}
```



